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ABSTRACT

The Quebec Adaptive Behavior Scale (QABS) is widely used in Quebec (Canada) to assess behavior of people with mental retardation in educational, vocational, residential or hospital settings. This study estimated the interrater agreement and test-retest reliability of the QABS. To determine test-retest reliability, the QABS was completed by 27 evaluators for 45 individuals (ages 6 to 47) from group homes, residential facilities, schools, and hospitals. To determine interrater agreement, 44 individuals (ages 3 to 54) were each assessed by two raters. Test-retest reliability coefficients for the global score were .92 between levels of adaptive functioning and .99 between total raw scores. Interrater agreement reliability coefficients for the global score were .83 between levels of adaptive functioning and .99 between total raw scores. The QABS was found to be a highly reliable, norm and criterion-referenced adaptive behavior scale, with clearly written scoring procedures and easy administration. (JDD)

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TEST-RETEST AND INTER-RATER RELIABILITY OF THE QUEBEC ADAPTIVE BEHAVIOR SCALE

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ABSTRACT

Adaptive behavior is generally assessed with the use of instruments developed in the United States using norms collected from exclusively American samples. In Quebec, norms exist presently for people with mental retardation who receive services from residential facilities and hospital settings. These norms were collected using the Quebec Adaptive Behavior Scale (QABS). The QABS is also widely used in educational and vocational settings. The present study estimated the inter-rater agreement and test-retest reliability of the QABS. The samples of evaluees and evaluators were drawn from different environments (group homes, residential facilities, schools, and hospitals). The evaluees sample for the test-retest was N = 45 and the correlation coefficient obtained for the global score was .92 ($p < .001$). The evaluees sample for the inter-rater agreement was N = 44 and the correlation coefficient obtained for the global score was .83 ($p < .001$). These reliability coefficients are psychometrically safisfactory.

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INTRODUCTION

Both the American Association on Mental Retardation (AAMR) and the Diagnostic and Satistical Manual require the assessment of adaptive behavior as well as intellectual functioning to diagnose mental retardation. Following these American leaders, the Ministère de l'Éducation du Québec has also formally included the measure of adaptive behavior as part of the mental retardation diagnostic process. Because of this requirement and the absence of adaptive behavior instruments with Quebec norms, the Quebec Adaptive Behavior Scale (QABS) was developed by the Atelier Québécois des Professionnels sur le Retard Mental (AQPRM) in collaboration with department of Psychology of Université du Québec à Montréal (Maurice, Morin, & Tassé, 1991). The scale was developed according to the AAMR definition of mental retardation (Grossman, 1983) and norms were collected for residential facilities and hospital settings (Veilleux, 1991).

The QABS includes two sections, Adaptive Behaviors and Maladaptive Behaviors. The Maladaptive Behaviors section does not affect the classification of the individual and therefore was not included in this reliability study. The Adaptive Behaviors section includes 225 items subdivided within the following domains: Personal Autonomy, Domestic Skills, Health and Sensori-Motor, Communication, Pre-School and Academic Skills, Socializaition and Vocational Skills.

Two types of computer generated reports are available (criterion and normative). The criterion evaluation report allows for a classification derived from a psychometric treatment using as criterion the table of eight levels of adaptive functioning, indexed according to age, provided by the AAMR (Grossman, 1983). This classification is available globally as well as for each domain. A normative report is also available for individuals living in residential and hospital settings (Veilleux, 1991). This report allows the comparaison of subjects' total raw scores to the norm, for the global score as well as for each domain's subtotal.

TEST-RETEST AND INTER-RATER RELIABILITY

According to Anastasi (1988), 50% of the error variance when classifying individuals is due to temporal fluctuations between assessments and inter-rater disagreement. Therefore, it is important to estimate the test-retest reliability and inter-rater agreement of the QABS.

Test-retest reliability is assessed by administering the same test twice to a group of subjects within a fixed time interval. An average of 4 weeks between administrations is desirable to avoid factors other than time having an impact on the results (evaluators rembering scores, evaluees learning new abilities). The scores between the two administrations are then compared and the variability between scores allows the assessment of the test stability. Inter-rater reliability is assessed by having two (or more) evaluators independently rate the same subject within a short time interval (to avoid the influence of time factors). This procedure allows to assess the level of item interpretation by the evaluator, high correlation coefficients indicating low level of item interpretation.

According to Anastasi (1988), correlation coefficients above .80 indicate acceptable reliability. Other adaptive behavior instruments report reliability coefficients ranging from .67 to .99 (test-retest) and from .42 to .96 (inter-rater) (Tassé & Maurice, 1991).

Reliability coefficients for the QABS were established with the Pearson correlation coefficient for levels of adaptive functioning (used in the criterion evaluation report) and for total raw scores (used in the normative report). Reliability coefficients were estimated for global scores as well as for domains. High correlation coefficients were expected for the global score, whether between levels of functioning or total raw scores. Indeed, the QABS' global score is the one used for classification purposes. Correlation coefficients were also estimated for domains to evaluate strenghts and weaknesses of each domain.

METHOD

Table 1. Method

	TEST-RETEST RELIABILITY	INTER-RATER AGREEMENT (2 raters)
SUBJECTS*	N = 45** ABD: M = 16%, MO = 13%, S = 20%, P = 51% 51% females 49% males 6-47 years $\bar{X}$ = 26,2 SD = 11,7	N = 44** ABD: M = 23%, MO = 7%, S = 14%, P = 57% 43% females 57% males 3-54 years $\bar{X}$ = 32,7 SD = 11,0
EVALUATORS*	N = 27 Educators and teachers evaluees known for > 6 months	N = 63 Educators, préposés, teachers evaluees known for > 6 months
PROCEDURE	3-5 weeks between assessments ($\bar{X}$ = 4 weeks) evaluators do not know second assessment is with same subject written scoring procedures given to evaluators***	1-10 days between assessments ($\bar{X}$ = 7 days) requirement of not sharing information before and during assessment period written scoring procedures given to evaluators***

* Evaluators and evaluees, contacted through group homes, residential facilities, schools, and hospitals, participated on a voluntary basis.

** Except when estimating correlation coefficients for the "Vocational Skills" domain. In this case, N = 35 (test-retest) and N = 42 (inter-rater) were used since subjects below 14 years of age were excluded.

*** Written scoring procedures were given to evaluators with no prior training with the QABS (usual administration procedure).

ABD Adaptive Behavior Deficit; M = mild, MO = moderate, S = severe, P = profound

RESULTS

Pearson correlation coefficients were estimated with SPSS/PC (Statistical Package for Social Sciences for Personal Computer: version 3.0). Correlation coefficients were estimated between levels of adaptive functioning as well as for total raw scores.

The test-retest reliability coefficients for the global score were .92 ($p < .001$) between levels of adaptive functioning and .99 ($p < .001$) between total raw scores. The inter-rater agreement reliability coefficients for the global score were .83 ($p < .001$) between levels of adaptive functioning and .99 ($p < .001$) between total raw scores. Reliability coefficients for global scores as well as for domains are listed in tables 2 and 3.

Table 2. Test-retest reliability coefficients

DOMAINS	LEVELS*	TOTAL RAW SCORES*
Global score	.92	.99
Personal autonomy	.97	.98
Domestic skills	.96	.95
Health and sensori-motor	.94	.97
Communication	.90	.98
Pre-school and academic skills	.94	.97
Socialization	.93	.99
Vocational skills**	.95	.93

* All correlations are significant at $p < .001$
** N = 35 (evaluees aged 14 or above)

Table 3. Inter-rater agreement reliability coefficients

DOMAINS	LEVELS*	TOTAL RAW SCORES*
Global score	.83	.99
Personal autonomy	.94	.98
Domestic skills	.89	.97
Health and sensori-motor	.87	.95
Communication	.91	.96
Pre-school and academic skills	.86	.95
Socialization	.93	.97
Vocational skills**	.74	.91

* All correlations are significant at $p < .001$

DISCUSSION

The QABS' reliability coefficients are psychometrically satifactory according to Anastasi's criteria (1988) as well as when compared to other adaptive behavior instruments. Indeed, test-retest correlations range from .90 to .97 (levels of adaptive functioning) and .93 to .99 (total raw scores) and inter-rater correlations range from .74 to.94 (levels of adaptive functioning) and .91 to .99 (total raw scores).

Therefore, the QABS can be considered a highly reliable, norm and criterion-referenced adaptive behavior scale. The QABS has the advantage of being easy to complete, and does not necessitate an interview with a professional in the field. This study has demonstrated that the written scoring procedures are sufficiently clear to allow easy administration and reliable results.

For more information on this study or the QABS, you may contact Dr. Paul Maurice at the following address:

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